
The entomology collection of Dr Clifford Edwards (1913-2009) in Glasgow Museums

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Fig. 1. Clifford Edwards

Clifford Edwards was born in Bristol in 1913 (Fig. 1). He worked in insurance before the Second World War and again on his return from active service. He left the insurance business to attend Southampton University, where he was awarded his BSc. He went on to obtain a PhD before starting as assistant lecturer at the Queen's University, Belfast in 1953.

He moved to Scotland, where he lived and worked for much of his adult life as a professional biologist for the Scottish Marine Biological Association. He studied the zooplankton of the Clyde at Millport between 1956 and 1969. He moved to Dunstaffnage in 1969, shortly after the new marine laboratory opened and worked there until he retired in 1980.

He was awarded a DSc from the University of London in 1975 for his work on the life-histories, systematics, ecology and distribution of British hydroids and hydromedusae; the significance for classification of the Hydrozoa and history of the study of Hydrozoa. Whilst he had not published as much as some DSc applicants, his work was of such quality he was deemed deserving. Dr Paul Cornelius, a fellow Cnidarian expert, formerly of the Natural History Museum, London described his

publications and the man himself as meticulous and totally reliable.

Dr Edwards specialised in rearing and describing hydroids. There was much taxonomic confusion in the group, with the early and later life stages being given different species names. With the assistance of Martyn Harvey, he managed to establish what a number of these organisms looked like at each stage of development, clearing up the taxonomy. He has a Hydrozoan named in his honour, *Sarsia cliffordi* Brinckmann-Voss, 1989. Dr Anita Brinckmann-Voss, the author, said that she and her Canadian colleagues had greatly admired his work and referred to him as an 'outstanding scientist'. Looking at Dr Edwards' entomology collection it is apparent that he also brought professional scientific rigour to his 'amateur' entomological investigations.

The collection contains over 100 store boxes of beautifully preserved pinned specimens from the West of Scotland and beyond (Fig. 2). There are numerous boxes of Scottish material, including 17 boxes of Hymenoptera, 7 of Coleoptera and 2 of Diptera. The remaining boxes are lepidoptera. Most of the collection is contemporary, collected by Clifford Edwards between the 1930s and the 1980s. He did not drive so was largely reliant on public transport and his fondness for cycling to find his specimens; consequently many come from in and around Oban. There are often a large number of examples of the same species collected from different locations and on different dates, including speckled woods, marsh fritillaries and burnet moths. Whether this sampling was to support particular investigations or just reflect his strong collector's instinct remains to be established. His colleagues knew he was knowledgeable about insects, amongst many other things, but had no idea he actually collected insects. Dr Edwards' sister said that Clifford was always a keen insect collector.

In addition to the store boxes there are several boxes of papered lepidoptera that were collected by Dr Edwards in the 1970s and 80s, from Ireland, Dorset and Cornwall amongst others. Dr Edwards regularly took holidays in the South West of England. There are a number of more aged tins of unlabelled specimens wrapped in paper of foreign origin. Several specimens are wrapped in army stationery and one of the tins is dated 1942, so were probably collected by him during his military service with the Hampshire Regiment. There are specimens in a tin labelled with Perugia, dated the 8th August 1945, just over a year after the Italian town was seized by the British troops. Martyn Harvey remembers Dr Edwards mentioning that he worked making maps for the army, following the invading forces through North Africa and Italy.

Dr Edwards had purchased and collected foreign butterfly and moth specimens to complement and enhance his collected material. Between 1970 and 1974, he spent nearly £1000 on specimens. There are

examples purchased from Worldwide Butterflies, R. N. Baxter, the Butterfly Centre, Saruman Butterflies, J. W. Smale, L. Christie, G. Hanrahan and K. P and D. J. Tolhurst. There are two specimens labelled as types in the box of Indian Lycaenid butterflies, which require some research to determine their authenticity.

Dr Clifford Edwards bequeathed his entomology collection to the Glasgow Natural History Society (GNHS) in the winter of 2009. Glasgow Museums (GM) was given first refusal of the specimens. In addition to the insect collection, Dr Edwards amassed a considerable natural history library, which he left to the Glasgow University Library (GUL). The GUL contacted GM around the same time to offer the museum the books that they did not require.

Early in 2010, Jeanne Robinson, Curator of Entomology went to assess the insect and library holdings in Dr Edwards' home. GM subsequently agreed to take all of the insect collection and a selection of the books. Scottish insect collections are few and far between and this collection complements and enhances GM's existing holdings in line with the collecting policy.



Fig. 2. A selection of Scottish bumblebees from Clifford Edwards' collection

Thus GM has acquired a large volume of reference material concerning the taxonomy and biology of lepidoptera of the world and a select few about other groups of organisms.

The collection has been accessioned as Z.2010.19 and can be viewed by appointment with the Entomology curator at the Glasgow Museums Resource Centre (GMRC). Dr Edward's books are also housed at GMRC and a list of these volumes acquired is in preparation.

Many thanks to May Edwards, Allan Davis, Clive Craik, Paul Cornelius, Anita Brinkmann-Voss and Martyn Harvey for providing biographical information about Clifford Edwards. If you knew Dr Edwards and have any additional information for inclusion in GM's biographical files please contact the author.

Adventures with Amphibians

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INTRODUCTION

A retirement lecture gives an opportunity for looking back and reviewing, and attempting to give coherence to a career. I can think of scientists who set off early on a theme and pursued it doggedly throughout their careers. Mine hasn't been like that. I began as an avian embryologist, then got interested in the reproductive ecology of amphibians. Then, through involvement in student expeditions overseas, marine turtle life histories and conservation developed as a side interest. Along the line bioethics and evolution education became research themes too, so there is little coherence, but diversity of interests is not such a bad thing for a biologist.

I've chosen to concentrate here on amphibians, and have called my experiences 'Adventures', partly because amphibian work is often at night, and in the tropics, night work in swamps can lead to all sorts of unexpected happenings. 'Chance encounters might be a better title, because chance has played a major part in the research I've been able to do. My interest in amphibians grew out of teaching a course on reproductive biology, mainly in the vertebrates. In 1982, I got the chance to spend five months study leave in Trinidad. This was quite serendipitous. Robin Bruce, an ex-student who had been with us on an expedition to Iceland (1972) obtained his first lecturing post at the University of the West Indies in Trinidad. He reported that Trinidad and Tobago were good places to study frogs, and that his head of department had written the guide to them (Kenny, 1969). So my family and I went to Trinidad and I got hooked for life, having now visited the islands more than 20 times. In recent years, I've become involved in amphibian work in the UK too, but in this lecture, I'll concentrate on four themes from our Trinidad work.

FOUR AMPHIBIAN ADVENTURES

Foam-nesting frogs

My first serious work in Trinidad in 1982 shows the influence of luck and chance. We arrived in the dry season with not many frogs around. Then there was some patchy rain, and puddles began forming on a piece of waste ground on the UWI campus: I passed these each day. After a heavy shower, I was surprised to find well developed tadpoles in the puddle as well as floating foam nests. I was fairly sure there had been no tadpoles previously. A few dry days and the puddle